No. 888,114. PATENTED MAY 19, 1908.

I. W. NUMAN.

COLUMN.

APPLICATION FILED MAY 15, 1907.

Fig. 1.

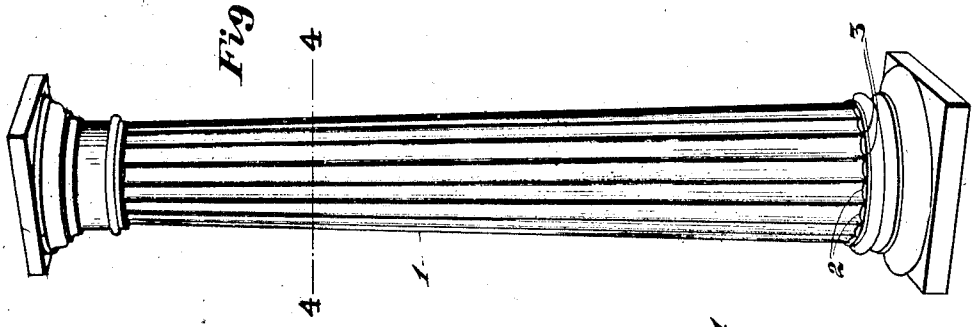



Fig. 2.

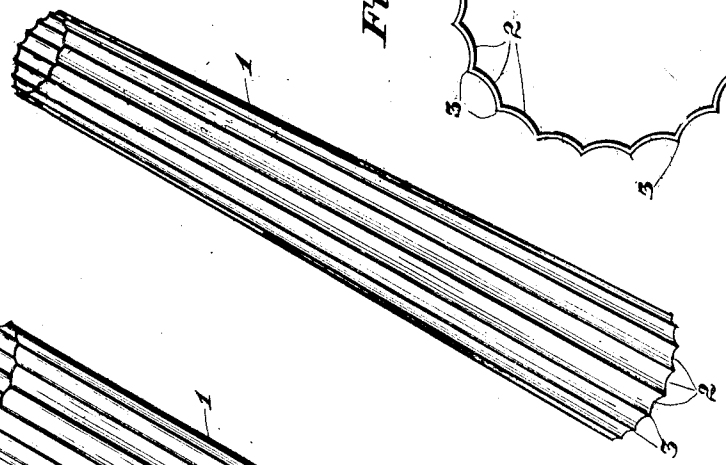



Fig. 3.

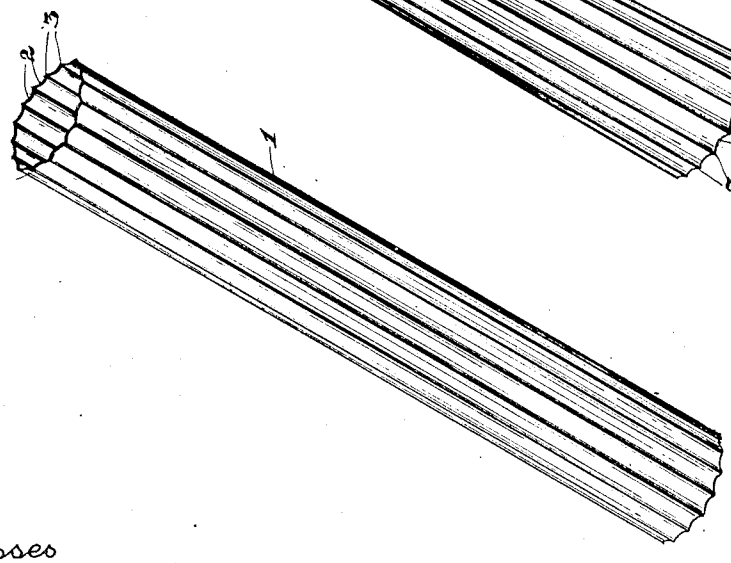
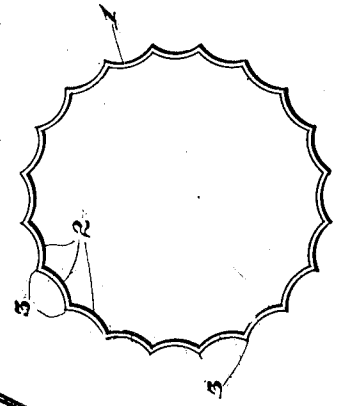



Fig. 4.




Witnesses

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# UNITED STATES PATENT OFFICE.

ISAAC W. NUMAN, OF CANTON, OHIO, ASSIGNOR TO THE UNION METAL POST COMPANY, OF CANTON, OHIO, A CORPORATION OF OHIO.

## COLUMN.

No. 888,114. Specification of Letters Patent. Patented May 19, 1908.

Application filed May 15, 1907. Serial No. 373,869.

*To all whom it may concern:*

Be it known that I, ISAAC W. NUMAN, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Columns, of which the following is a specification.

The object of the present invention is to produce a column from sheet metal and so shape the column or shell thereof, that it will have the desired amount of strength to carry the weight designed to be carried by building columns. This object I accomplish by the novel formation hereinafter described and particularly pointed out in the claims.

Like numerals refer to the same parts in the several figures of the drawing, in which—

Figure 1 is a view showing the shaft, base, and capital placed in proper relative position with reference to each other. Fig. 2 is a detached perspective view of the column shaft. Fig. 3 is a similar view showing a straight shaft. Fig. 4 is a transverse section on line 4—4, Fig. 1.

In the accompanying drawing, 1 represents the shaft or column proper, which may be of any desired size, reference being had to the particular use designed and to the place in the building located. The shaft 1 is preferably formed cylindrical in cross-section and may be straight or tapered as desired. Heretofore it has been necessary to employ a support other than the column shaft, which support has been located within the shaft. My invention is of such a nature that a sheet metal shaft can be produced having the desired strength to carry the weight usually carried by the inner support. In other words the shaft is so formed that a self supporting shaft is produced.

So far as I am aware sheet metal columns have been formed by simply alternating the corrugations, which alternating corrugations do not produce a column shaft adapted to withstand pressure without danger of buckling and in some instances bending or springing. The shaft 1 is provided with a series of longitudinal convexo-concave integral sections 2, which convexo-concave sections are separated by the outward extended integral ribs 3, which ribs are formed of much less width than the width of the convexo-concave portion, but I do not desire to be confined to any specific width of either the convexo-concave or the ridge portions as the object above pointed out can be carried out by forming the outer portions or ribs of a different shape from the inner convexo-concave portion, thereby providing two distinct and different formations so that the inner and outer portions will brace each other in a different direction that is to say the convexo-concave portions will be braced by the differently shaped ridges and the different shaped ridges will be braced by the convexo-concave portions to a much greater extent than the ordinary oppositely curved or corrugated column such as are of common construction in conductor pipe and in columns wherein a center support is provided.

In the formation of sheet metal columns the metal must be originally formed in plain sheets of required thickness for the purpose intended and the sheets given the cylindrical form and the longitudinal alternating ridges and the convexo-concave portions and in order to produce a column having the desired amount of strength to support and carry the weight intended it is of importance to so shape the shell that no springing or buckling will be produced when pressure is brought to bear upon the column or the shaft of the column.

The edges of the column are either welded or seamed together but preferably a common locked seam is employed, but this feature forms no particular part of the present invention. The flutes of the column proper are tapered from their bottom or lower portions forward and the intervening ribs located between the fluted portions are extended from the top to the bottom of the column.

It will be understood that by forming the column tapered and also forming the convexo-concave flutes or corrugations tapered a very strong structure is provided by which thin sheet metal can be employed while heretofore it has been necessary to employ heavy material or material formed from cast metal or heavy wrought.

Having fully described my invention what I claim as new and desire to secure by Letters-Patent, is—

1. As an improved article of manufacture, a column formed of sheet metal and tapered

from its bottom or base toward its top, convexo-concave flutes tapered from their bottom or lower ends toward their top or upper ends, and extended intermediate ridges, substantially as and for the purpose specified.

2. As an improved article of manufacture a column formed of sheet metal, the shell of said column formed of sheet metal and said shell consisting of alternating convexo-concave flutes and ridges, said convexo-concave flutes tapered, substantially as and for the purpose specified.

In testimony that I claim the above, I have hereunto subscribed my name in the presence of two witnesses.

ISAAC W. NUMAN.

Witnesses:
J. A. JEFFERS,
F. W. BOND.